Power Quality Events in Silicon Valley

Grayson Heffner

Lawrence Berkeley National Laboratory

DOE I-Grid Pilot Project

SoftSwitching, DOE & LBNL are initiating a pilot project for the I-Grid

- Deploying 50 I-Sense monitors in select Silicon Valley manufacturer facilities
  - A total of 5 – 8 manufacturers, clustered around 2-3 transmission substations
  - Participants install 5-10 I-Sense monitors at each facility
    - 1 at each service entrance
    - 1 each in front of 3-4 sensitive processes
  - Establish a mechanism to correlate voltage sags with observed process problems (log, callback procedure, etc.)
- Data from the pilot program will be shared with all participants via web-site interface
  - SoftSwitching to provide data base and website management of the I-Grid
  - Email notification of events provided free
- Proof-of-concept analysis of I-Grid data and develop a preliminary report that will be made available to pilot study participating members
  - Macro and system level indexing
  - Discrete event analysis
  - Correlation analysis (voltage sags with observed process problems)
  - Fault propagation and/or network analysis

I-Grid™ (Definition)

- **I-Sense™ Monitors**
  - Nationwide network will consist of 50,000 geographically dispersed power quality and reliability monitors providing universally available data through the I-Grid backbone to the I-Grid server
  - Prototype monitors have been deployed, end-to-end system is operational
  - Large scale deployment to begin 4Q2001
- **I-Grid Website**
  - Time-stamped site-specific data regarding power quality and reliability events
  - Spatially and temporally correlated data from regional arrays of I-Sense monitors will allow realization of unique value streams
  - Basic layer of PQ/PR data and highest level of benchmarking information is available free

i-grid

Home | I-Grid | Product Info | Purchase | Support

US Map | Magnitude/Duration | Event Log

Login:

Email Address

Password

Login

Registration
Not a member yet? Registration is easy and free of charge. Just click here.

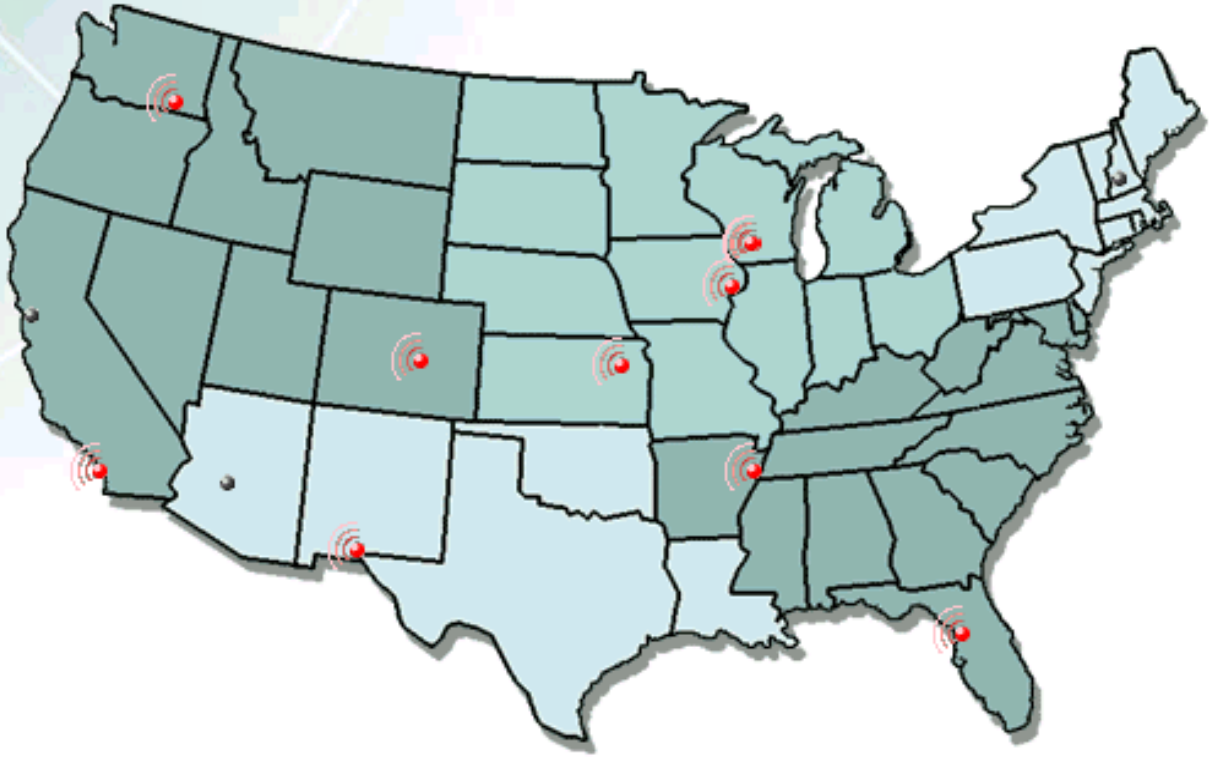
Forget your Password?
We'll send it to you. Click here.

Event Criteria

I-Nodes: All I-Nodes

Within last: 5 Day(s)

I-Grid Home Page

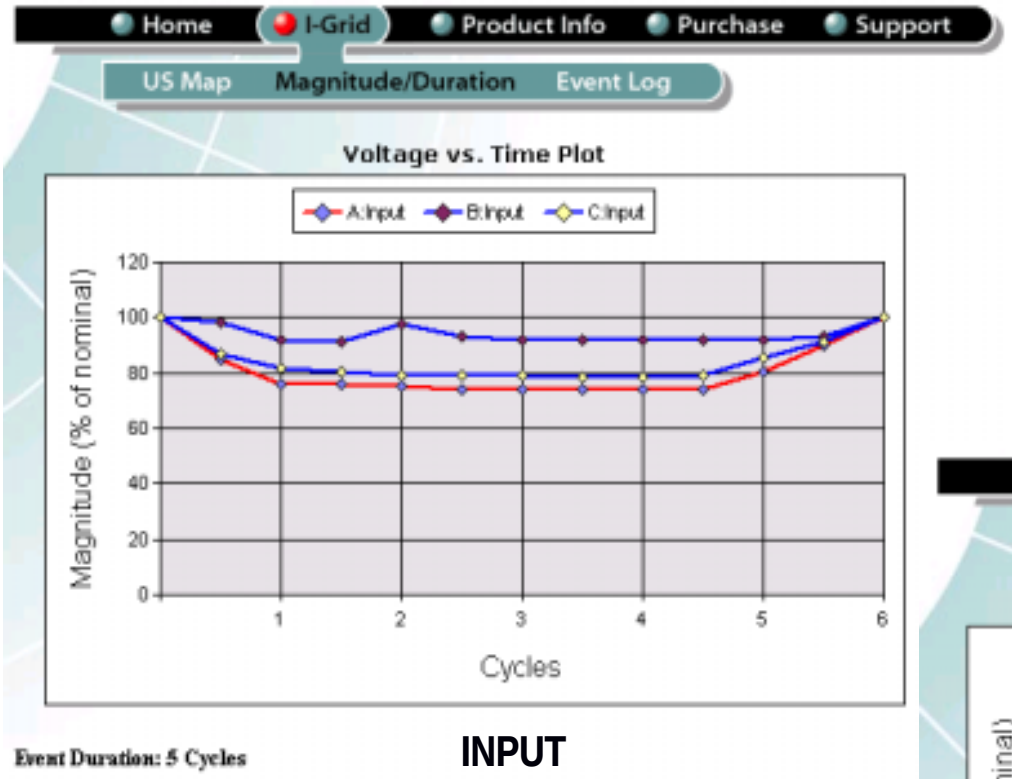


Click on a region to drill-down.

Click here to see a Magnitude/Duration Plot of the Events you are looking at.

softswitch.com

Events Recorded at Automotive Plant

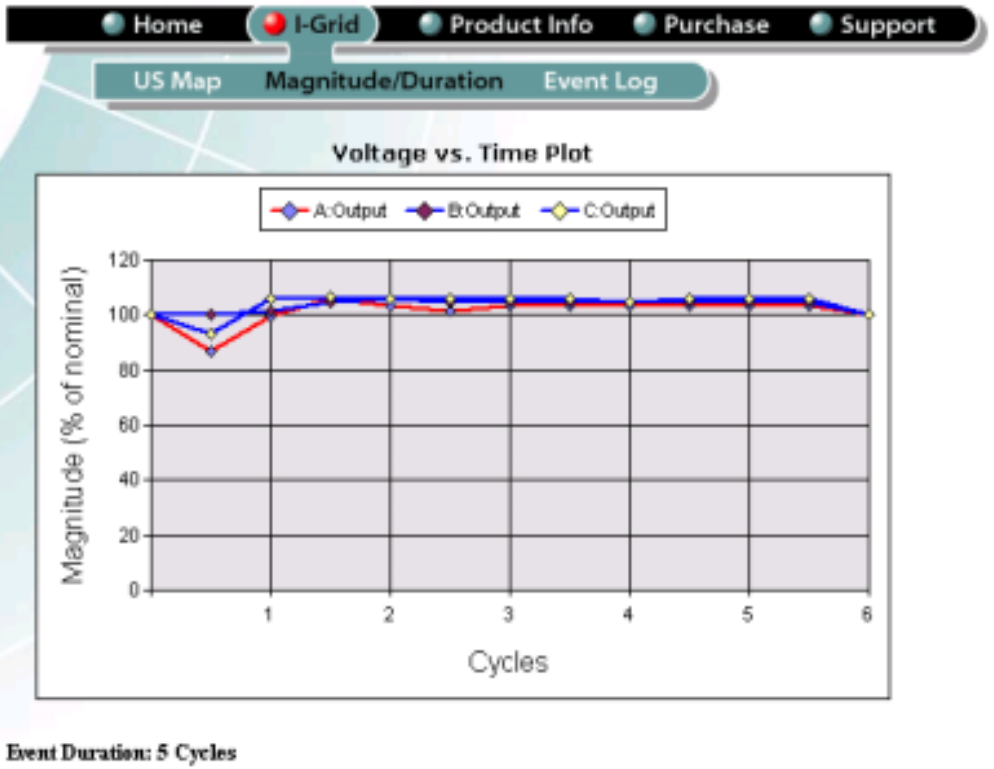


Event Duration: 5 Cycles

INPUT

7/4/01 8:35:32 PM

CORRECTED OUTPUT



Event Duration: 5 Cycles

I-Grid Case Study

I-Sense Monitored Event
I-Sense Did Not Monitor Event

- 16 single phase sensors located around Madison, WI
- 2 events were recorded on 2/24/01
- 11 out of 16 monitors showed identical profiles for both events.
- Suggests line-to-line transmission level event was root cause

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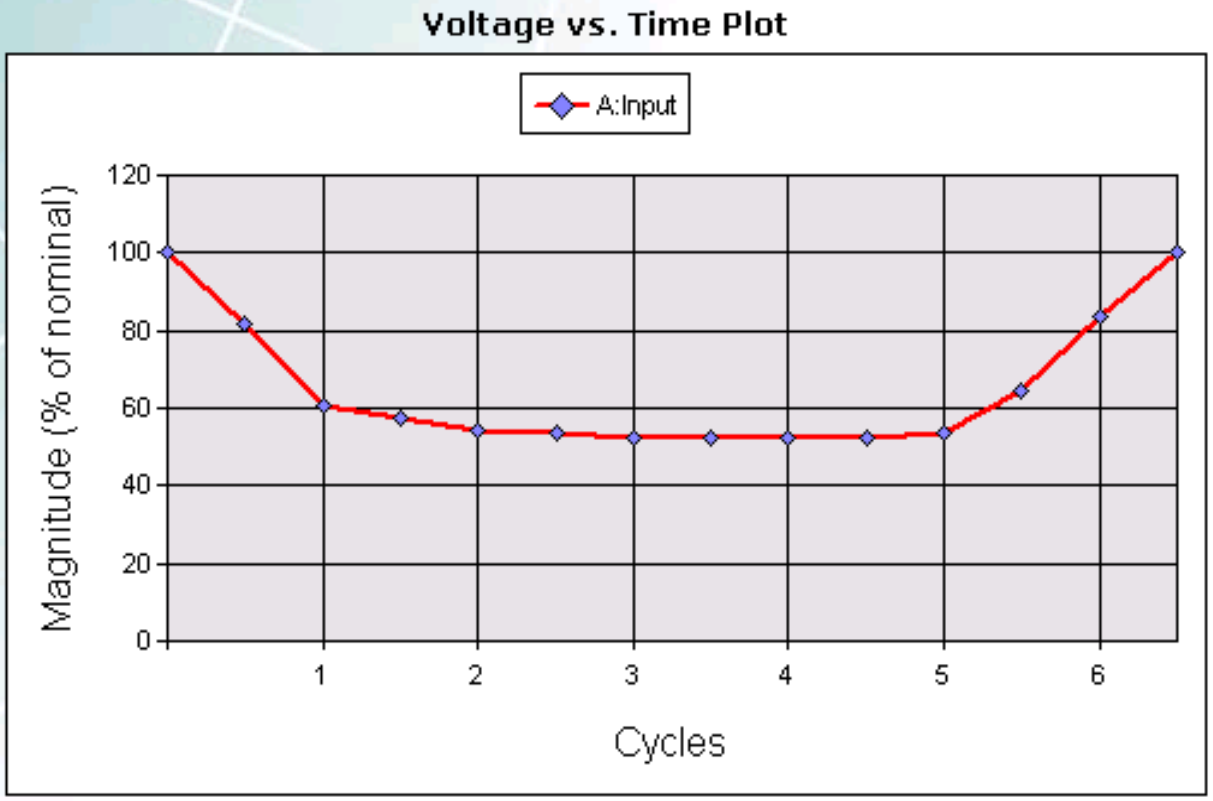
Welcome
Deepak Divan

- View My I-Nodes
- Manage My I-Nodes
- Manage My Account

Logout



Sample Events

Event # 1

Time Stamp	8/23/01, 3:19:26 AM
Duration	5.5 Cycles
Remaining Voltage	52%
Location	San Jose, CA

i-grid

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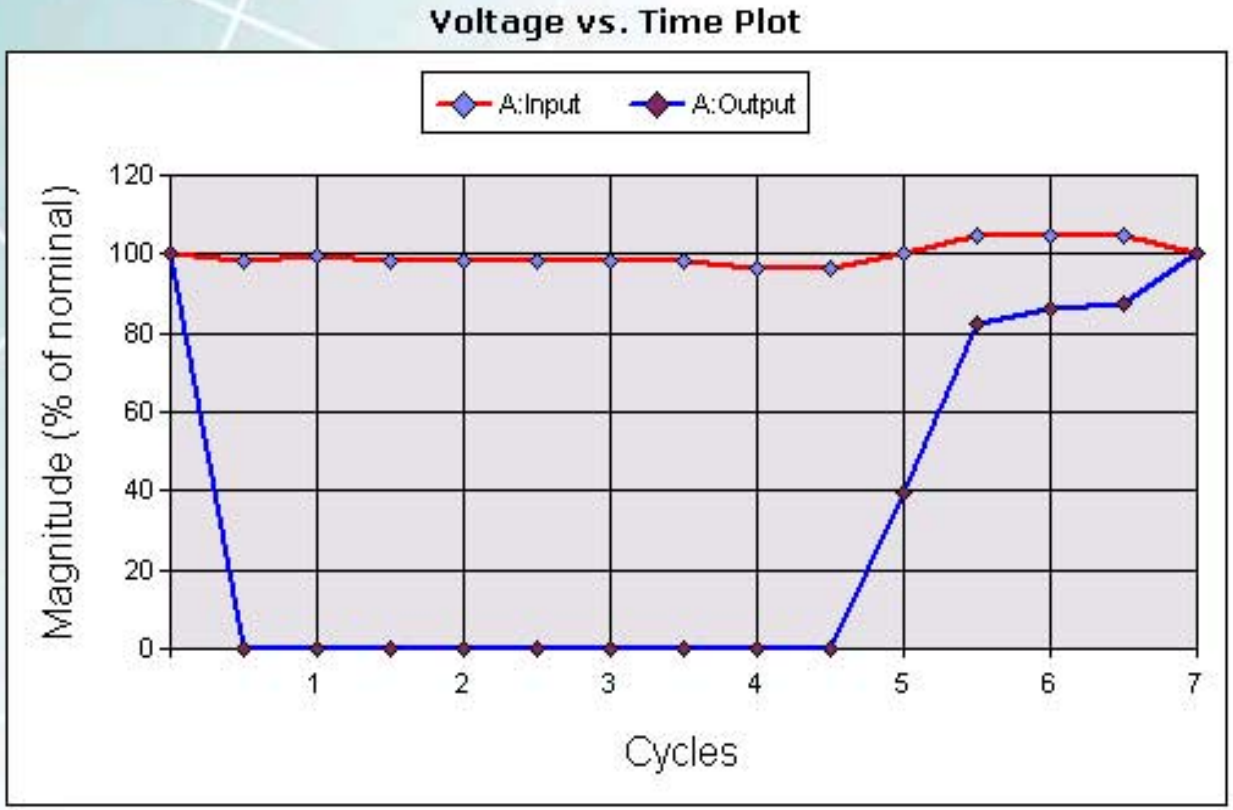

Sample Events

Event # 2

Time Stamp	6/21/01, 2:51:19 AM
Duration	6 Cycles
Remaining Voltage	0%
Location	Madison, WI

i-grid

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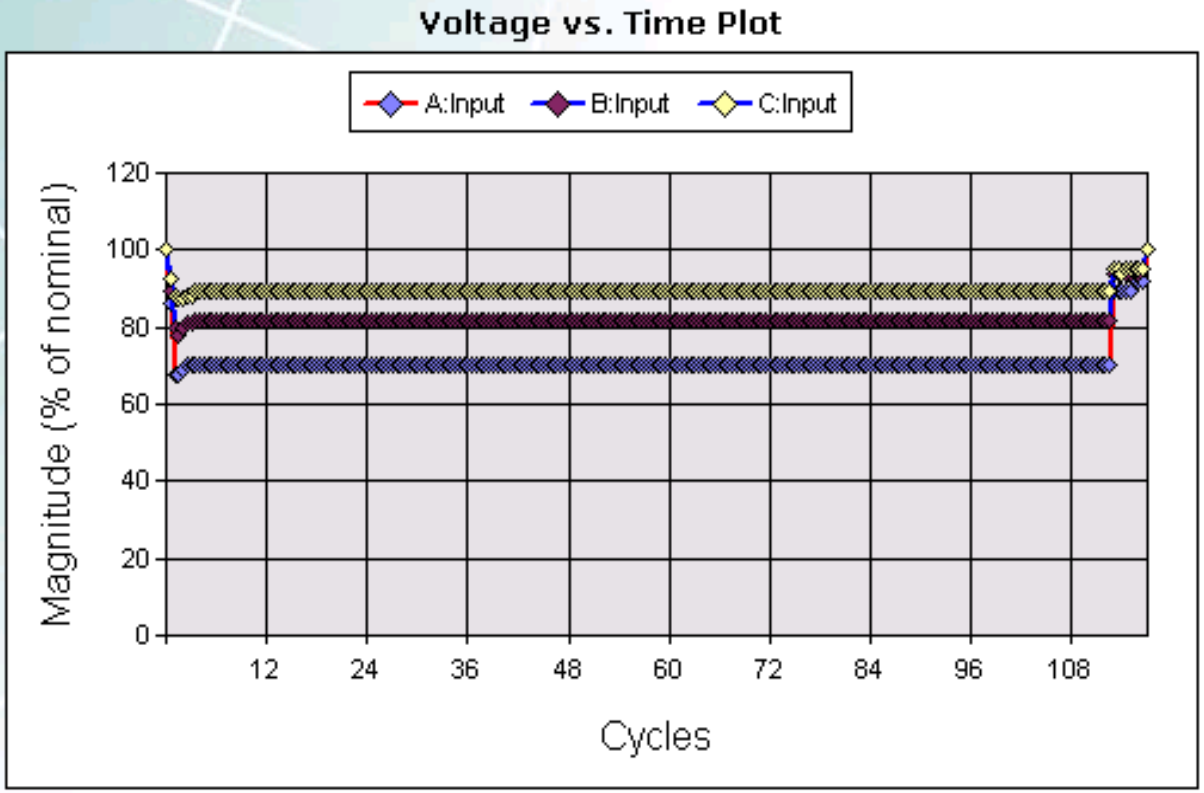
Logout



Sample Events

3 Phase I-Node implemented on the input of a 1 MW DySC System at an Automobile Assembly Plant

Event # 8 (Input)

Time Stamp	8/24/01 1:56:15 PM
Duration	118 Cycles
Remaining Voltage	68%
Location	Southern US

I-Grid: A National Asset

- The power grid is a national asset which touches every home and business.
- The old and internet economies are converging with both dependent on high quality power.
- PQ misinformation abounds, efficient and effective decisions cannot be made, cost to economy is $150 Billion per year.
- SoftSwitching's I-Grid™ is the information 'back-bone' being established to make PQ and PR information universally available.
- Availability of universal PQ and PR information would benefit:
  - Industrial and commercial users
  - Utilities
  - Policy makers
  - General public
- Elevated market awareness would make the market elastic and increase the potential size of the broader market.